

# PZ1AH3V6B~PZ1AH75B

## SILICON ZENER DIODE

**VOLTAGE**

**3.6V~75V**

**POWER**

**1Watt**

### Features

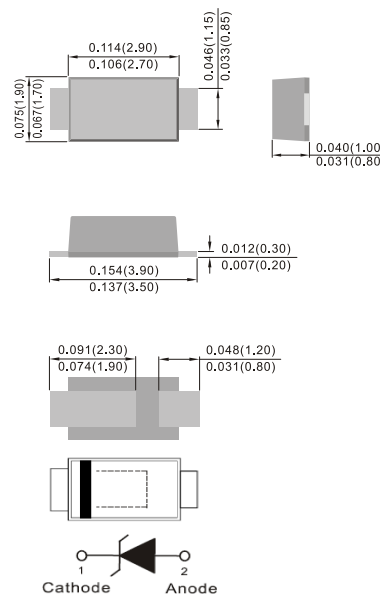
- Silicon planar Zener diode
- Low profile surface-mount package
- Low leakage current
- Excellent stability
- High temperature soldering : 260 °C/10 seconds at terminals
- Lead free in compliance with EU RoHS2.0 (2011/65/EU & 2015/865/EU directive)
- Green molding compound as per IEC61249 Std..(Halgen Free)

### Mechanical Data

- Case: SOD-123HE, plastic
- Terminals: Solderable per MIL-STD-750, Method 2026
- Polarity: Color band denotes cathode end
- Approx. Weight: 0.0006 ounces, 0.0172 grams

**SOD-123HE**

**Unit: inch(mm)**



### Maximum Ratings ( $T_A=25^{\circ}\text{C}$ unless otherwise noted)

| PARAMETER                                                          | SYMBOL          | LIMIT       | UNITS                |
|--------------------------------------------------------------------|-----------------|-------------|----------------------|
| Peak Pulse Power Dissipation at $T_A=25^{\circ}\text{C}$ (Notes 1) | $P_D$           | 1           | W                    |
| ESD Voltage per IEC61000-4-2 (Air)                                 | $V_{ESD}$       | $\pm 30$    | kV                   |
| ESD Voltage per IEC61000-4-2 (Contact)                             |                 | $\pm 30$    |                      |
| Typical Thermal Resistance (Notes 2)                               | $R_{\theta JA}$ | 185         | $^{\circ}\text{C/W}$ |
| Operating Junction Temperature Range                               | $T_J$           | -55 to +150 | $^{\circ}\text{C}$   |
| Storage Temperature Range                                          | $T_{STG}$       | -55 to +150 | $^{\circ}\text{C}$   |

#### NOTES :

1. Mounted on a  $5\text{mm}^2$  copper pads to each terminal.
2. Mounted on a FR-4 PCB, single-sided copper, mini pad .



## PZ1AH3V6B~PZ1AH75B

Electrical Characteristics ( $T_A=25^{\circ}\text{C}$  unless otherwise noted)

| Part Number | Nominal Zener Voltage           |        |        |     | Nominal Zener Impedance          |     |                                  |      | Max. Reverse Leakage Current   |     | Marking Code |
|-------------|---------------------------------|--------|--------|-----|----------------------------------|-----|----------------------------------|------|--------------------------------|-----|--------------|
|             | V <sub>Z</sub> @I <sub>ZT</sub> |        |        |     | Z <sub>ZT</sub> @I <sub>ZT</sub> |     | Z <sub>ZK</sub> @I <sub>ZK</sub> |      | I <sub>R</sub> @V <sub>R</sub> |     |              |
|             | Nom. V                          | Min. V | Max. V | mA  | Ω                                | mA  | Ω                                | mA   | μA                             | V   |              |
| PZ1AH3V6B   | 3.6                             | 3.42   | 3.78   | 100 | 8                                | 100 | 400                              | 1    | 100                            | 1   | ACH          |
| PZ1AH3V9B   | 3.9                             | 3.71   | 4.10   | 100 | 8                                | 100 | 400                              | 1    | 50                             | 1   | BCH          |
| PZ1AH4V3B   | 4.3                             | 4.09   | 4.52   | 100 | 7                                | 100 | 400                              | 1    | 25                             | 1   | CCH          |
| PZ1AH4V7B   | 4.7                             | 4.47   | 4.94   | 100 | 7                                | 100 | 500                              | 1    | 10                             | 1   | DCH          |
| PZ1AH5V1B   | 5.1                             | 4.85   | 5.36   | 100 | 6                                | 100 | 550                              | 1    | 5                              | 1   | ECH          |
| PZ1AH5V6B   | 5.6                             | 5.32   | 5.88   | 100 | 4                                | 100 | 600                              | 1    | 10                             | 2   | FCH          |
| PZ1AH6V0B   | 6                               | 5.7    | 6.3    | 100 | 3                                | 100 | 650                              | 1    | 8                              | 2   | HCH          |
| PZ1AH6V2B   | 6.2                             | 5.89   | 6.51   | 100 | 3                                | 100 | 700                              | 1    | 5                              | 2   | ICH          |
| PZ1AH6V8B   | 6.8                             | 6.46   | 7.14   | 100 | 3                                | 100 | 700                              | 1    | 10                             | 3   | JCH          |
| PZ1AH7V5B   | 7.5                             | 7.13   | 7.88   | 100 | 2                                | 100 | 700                              | 0.5  | 10                             | 3   | KCH          |
| PZ1AH8V2B   | 8.2                             | 7.79   | 8.61   | 100 | 2                                | 100 | 700                              | 0.5  | 10                             | 3   | LCH          |
| PZ1AH8V7B   | 8.7                             | 8.27   | 9.14   | 50  | 3                                | 50  | 700                              | 0.5  | 10                             | 4   | MCH          |
| PZ1AH9V1B   | 9.1                             | 8.65   | 9.56   | 50  | 4                                | 50  | 700                              | 0.5  | 10                             | 5   | NCH          |
| PZ1AH10B    | 10                              | 9.50   | 10.50  | 50  | 4                                | 50  | 700                              | 0.25 | 7                              | 7.5 | PCH          |
| PZ1AH11B    | 11                              | 10.45  | 11.55  | 50  | 7                                | 50  | 700                              | 0.25 | 4                              | 8.2 | RCH          |
| PZ1AH12B    | 12                              | 11.40  | 12.60  | 50  | 7                                | 50  | 700                              | 0.25 | 3                              | 9.1 | SCH          |
| PZ1AH13B    | 13                              | 12.35  | 13.65  | 50  | 10                               | 50  | 700                              | 0.25 | 2                              | 10  | TCH          |
| PZ1AH14B    | 14                              | 13.30  | 14.70  | 50  | 10                               | 50  | 700                              | 0.25 | 2                              | 11  | UCH          |
| PZ1AH15B    | 15                              | 14.25  | 15.75  | 50  | 12                               | 50  | 700                              | 0.25 | 1                              | 11  | VCH          |
| PZ1AH16B    | 16                              | 15.20  | 16.80  | 25  | 15                               | 25  | 700                              | 0.25 | 1                              | 12  | WCH          |
| PZ1AH17B    | 17                              | 16.15  | 17.85  | 25  | 15                               | 25  | 750                              | 0.25 | 1                              | 13  | XCH          |
| PZ1AH18B    | 18                              | 17.10  | 18.90  | 25  | 15                               | 25  | 750                              | 0.25 | 1                              | 13  | YCH          |
| PZ1AH19B    | 19                              | 18.05  | 19.95  | 25  | 15                               | 25  | 750                              | 0.25 | 1                              | 14  | ZCH          |
| PZ1AH20B    | 20                              | 19.00  | 21.00  | 25  | 15                               | 25  | 750                              | 0.25 | 1                              | 15  | 2CH          |
| PZ1AH22B    | 22                              | 20.90  | 23.10  | 25  | 15                               | 25  | 750                              | 0.25 | 1                              | 16  | 3CH          |
| PZ1AH24B    | 24                              | 22.80  | 25.20  | 25  | 15                               | 25  | 750                              | 0.25 | 1                              | 18  | 4CH          |
| PZ1AH25B    | 25                              | 23.75  | 26.25  | 25  | 15                               | 25  | 750                              | 0.25 | 1                              | 19  | 6CH          |
| PZ1AH27B    | 27                              | 25.65  | 28.35  | 25  | 15                               | 25  | 750                              | 0.25 | 1                              | 20  | 7CH          |
| PZ1AH28B    | 28                              | 26.60  | 29.40  | 25  | 15                               | 25  | 850                              | 0.25 | 1                              | 21  | 9CH          |



## PZ1AH3V6B~PZ1AH75B

Electrical Characteristics ( $T_A=25^{\circ}\text{C}$  unless otherwise noted)

| Part<br>Number | Nominal Zener Voltage           |           |           |    | Nominal Zener Impedance          |    |                                  |      | Max.<br>Reverse<br>Leakage<br>Current |    | Marking<br>Code |
|----------------|---------------------------------|-----------|-----------|----|----------------------------------|----|----------------------------------|------|---------------------------------------|----|-----------------|
|                | V <sub>Z</sub> @I <sub>ZT</sub> |           |           |    | Z <sub>ZT</sub> @I <sub>ZT</sub> |    | Z <sub>ZK</sub> @I <sub>ZK</sub> |      | I <sub>R</sub> @V <sub>R</sub>        |    |                 |
|                | Nom.<br>V                       | Min.<br>V | Max.<br>V | mA | Ω                                | mA | Ω                                | mA   | μA                                    | V  |                 |
| PZ1AH30B       | 30                              | 28.50     | 31.50     | 25 | 15                               | 25 | 1000                             | 0.25 | 1                                     | 22 | AEH             |
| PZ1AH33B       | 33                              | 31.35     | 34.65     | 25 | 15                               | 25 | 1000                             | 0.25 | 1                                     | 24 | BEH             |
| PZ1AH36B       | 36                              | 34.20     | 37.80     | 10 | 40                               | 10 | 1000                             | 0.25 | 1                                     | 27 | CEH             |
| PZ1AH39B       | 39                              | 37.05     | 40.95     | 10 | 40                               | 10 | 1000                             | 0.25 | 1                                     | 30 | DEH             |
| PZ1AH43B       | 43                              | 40.85     | 45.15     | 10 | 45                               | 10 | 1500                             | 0.25 | 1                                     | 33 | EEH             |
| PZ1AH47B       | 47                              | 44.65     | 49.35     | 10 | 45                               | 10 | 1500                             | 0.25 | 1                                     | 36 | FEH             |
| PZ1AH51B       | 51                              | 48.45     | 53.55     | 10 | 60                               | 10 | 1500                             | 0.25 | 1                                     | 39 | HEH             |
| PZ1AH56B       | 56                              | 53.20     | 58.80     | 10 | 60                               | 10 | 2000                             | 0.25 | 1                                     | 43 | IEH             |
| PZ1AH62B       | 62                              | 58.90     | 65.10     | 10 | 80                               | 10 | 2000                             | 0.25 | 1                                     | 47 | JEH             |
| PZ1AH68B       | 68                              | 64.60     | 71.40     | 10 | 80                               | 10 | 2000                             | 0.25 | 1                                     | 51 | KEH             |
| PZ1AH75B       | 75                              | 71.25     | 78.75     | 10 | 100                              | 10 | 2000                             | 0.25 | 1                                     | 56 | LEH             |

# PZ1AH3V6B~PZ1AH75B

## TYPICAL CHARACTERISTIC CURVES

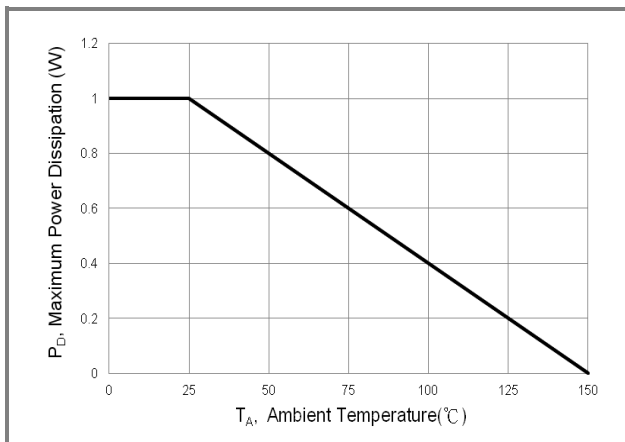


Fig.1 Steady-State Power Derating Curve

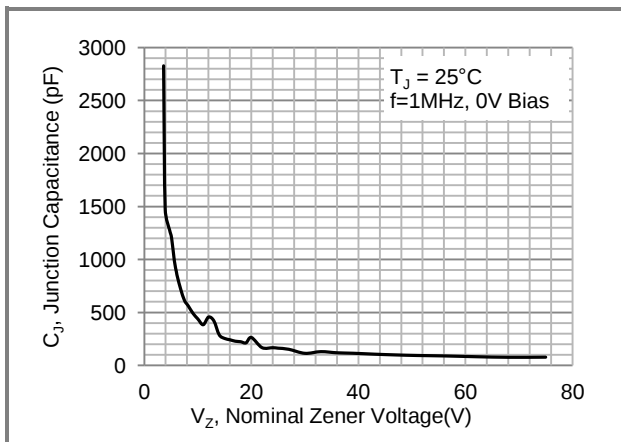


Fig.2 Typical Capacitance Versus  $V_Z$

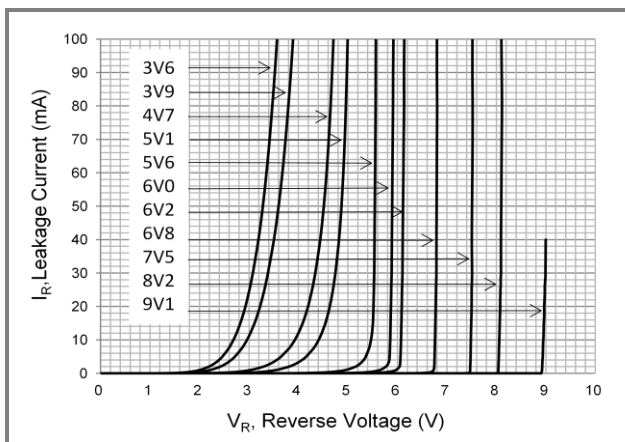


Fig.3 Typical Zener Breakdown Characteristics

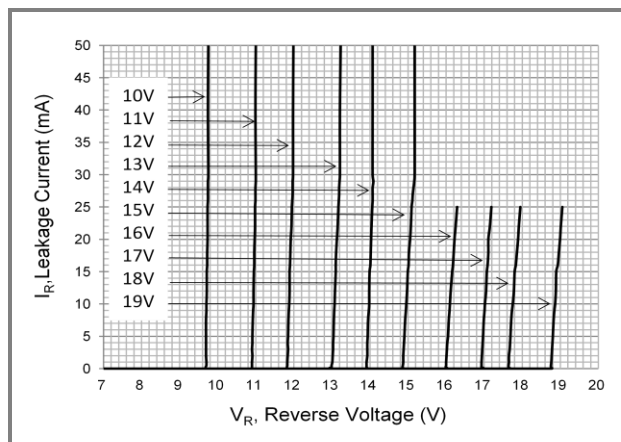


Fig.4 Typical Zener Breakdown Characteristics

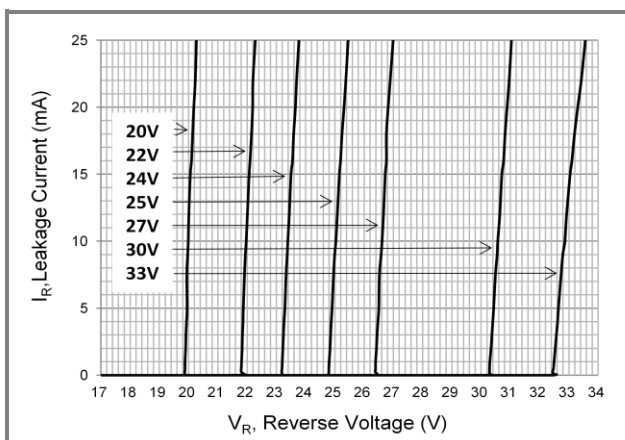


Fig.5 Typical Zener Breakdown Characteristics

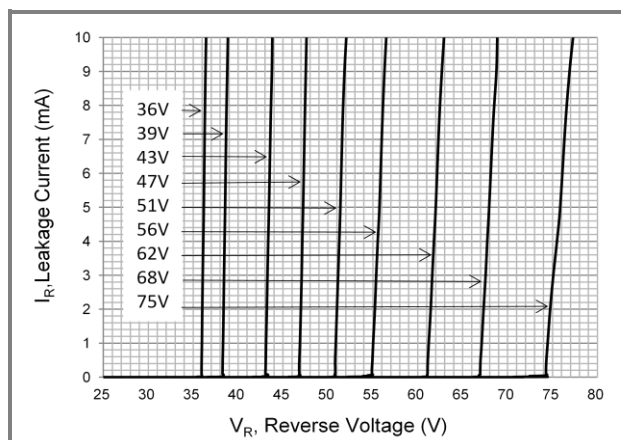


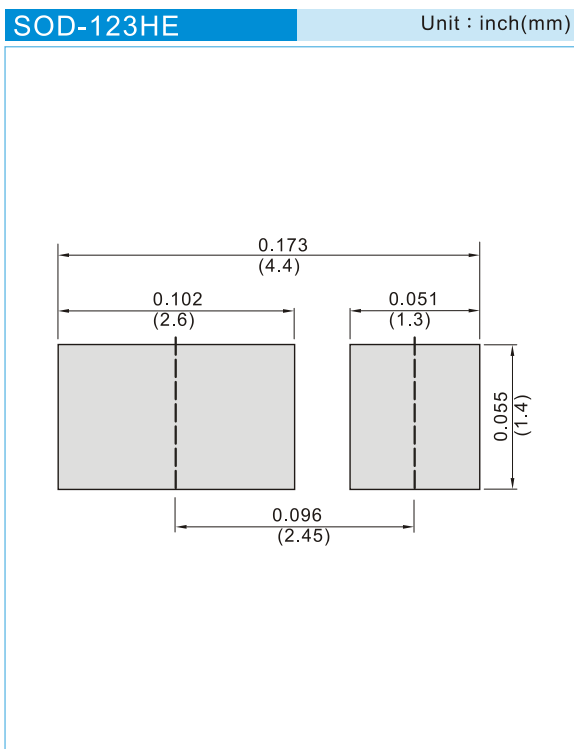
Fig.6 Typical Zener Breakdown Characteristics

## PZ1AH3V6B~PZ1AH75B

### Part No Packing Code Version

| Part No Packing Code | Package Type | Packing Type       | Marking | Version      |
|----------------------|--------------|--------------------|---------|--------------|
| PZ1AH3V6B_R1_00001   | SOD-123HE    | 3K pcs / 7" reel   | ACH     | Halogen free |
| PZ1AH3V6B_R2_00001   | SOD-123HE    | 10K pcs / 13" reel | ACH     | Halogen free |

### Mounting Pad Layout





## **PZ1AH3V6B~PZ1AH75B**

### **Disclaimer**

- Reproducing and modifying information of the document is prohibited without permission from Panjit International Inc..
- Panjit International Inc. reserves the rights to make changes of the content herein the document anytime without notification. Please refer to our website for the latest document.
- Panjit International Inc. disclaims any and all liability arising out of the application or use of any product including damages incidentally and consequentially occurred.
- Panjit International Inc. does not assume any and all implied warranties, including warranties of fitness for particular purpose, non-infringement and merchantability.
- Applications shown on the herein document are examples of standard use and operation. Customers are responsible in comprehending the suitable use in particular applications. Panjit International Inc. makes no representation or warranty that such applications will be suitable for the specified use without further testing or modification.
- The products shown herein are not designed and authorized for equipments requiring high level of reliability or relating to human life and for any applications concerning life-saving or life-sustaining, such as medical instruments, transportation equipment, aerospace machinery et cetera. Customers using or selling these products for use in such applications do so at their own risk and agree to fully indemnify Panjit International Inc. for any damages resulting from such improper use or sale.
- Since Panjit uses lot number as the tracking base, please provide the lot number for tracking when complaining.

# Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

Panjit:

[PZ1AH4V3B\\_R1\\_00001](#) [PZ1AH4V3B\\_R2\\_00001](#)